FY 2012–2016 CIP/COP Project – Daylighting of Piped Streams CIP X COP _____

Department/Division: Environmental Services, Engineering Division

Description/Justification:
Daylighting refers to the process of returning piped portions of storm drain outfalls to a natural state to improve water quality and reduce flood risks. Decades ago, many of the City's streams, currently enclosed in pipes, flowed in natural open channels. Due to rapid urban development, many streams experienced increased storm water runoff and high velocity flow, which caused their banks to erode or collapse. Using the wisdom of the day, the City eliminated the erosion problem at significant cost to stream ecology by enclosing these streams in underground pipes. This technique was also employed on additional streams to allow land above to be developed. Today with a greater understanding of stream and ecological function, many jurisdictions are pursuing efforts to improve stream ecology and water quality by daylighting these piped streams where appropriate.
Daylighting can provide many water quality and environmental benefits including:
• Improved water quality by exposing the flow to the elements, essential for the survival of many forms of aquatic species;
• Enhanced opportunity to plant trees along the banks;
• Reduced runoff velocities;
• Reduced flooding;
• Enhanced recreational use of aquatic and riparian habitat;
• Added open space.

With the assistance of consultants, several potential daylighting sites have been identified. A study commissioned by the City in 2005 has provided direction in choosing particular stream reaches on which to focus. In cooperation with the City's Parks and Recreation Department, the Department of Environmental Services has begun to consider preliminary designs for a reach of the Coe Branch in the Hamlett Rees tract as an initial daylighting project. A FY09 federal STAG grant has been awarded for this project. Local funding will provide the required match.

Subject to confirmation from a design study and the availability of grant funds, it is proposed that an additional daylighting project(s) be undertaken by 2015.

Project Cost Estimate: TBD

(Provide breakdown of Design and Engineering, Construction; for on-going projects, include funds appropriated in prior years; include source of cost estimates)

Engineering and Design: $70,000

Construction:	TBD (Engineer to provide cost estimate)
Total Project Cost (all years):	$1,118,000
Prior Appropriations:	$590,000
Unexpended Balance:	$590,000

Future Funding Needs:

	Prior Appropriations	FY2012	FY2013	FY2014	FY2015	FY2016	Total
Funding Source: Only If*	$0	$0	$0	$0	$250,000	$250,000	$500,000
Funding Source: Local**	$250,000	$28,000	$	$	$	$	$278,000
Funding Source: STAG Grants**	$340,000	$0	$	$	$	$	$340,000
Total:	$590,000	$28,000	$0	$0	$250,000	$250,000	$1,118,000

** STAG Grants must be matched 55% Federal to 45% Local Funding ($340K match to $278K); $28k not recommended/need to absorb in operations or adjust

** Preliminary estimate.*

Project Schedule:

Initial Daylighting Project	
Engineering and Design:	FY2012
Construction:	FY2013 and ongoing

Impact on Operating Costs (include equipment, supplies, personnel impacts; specify if a companion initiative will be submitted)**:**

The implementation of this project will reduce annual costs associated with maintenance of storm water pipes as well as potential costs to the City to repair damage caused by flooding or sudden collapse of a storm water pipe.

Conformity with Comprehensive Plan and Council Strategic Plan (include reference to additional adopted planning/policy documents)**:**

Repairing inadequate storm water systems meets Comprehensive Plan goals found in the "Natural Resources and the Environment" and "Community Facilities, Public Utilities and Government Services" chapters. Relevant Comprehensive Plan goals include:

- Determine whether existing public facilities require renovation
- Identify and prioritize facilities and programs in the greatest need of upgrading
- Ensure the adequacy of the City's present and future storm water management systems

FY 2012–2016 CIP/COP Project – Storm Water Facility Improvements CIP X COP _____

Modified Recommendation - new funding proposed to be debt funded by a designated fee or grants (required match)

Department/Division: Environmental Services, Engineering Division

Description/Justification:

The City has over 140,000 linear feet of storm lines with approximately 1,400 appurtenances. In many parts of the City, this system is aging, undersized, and unable to convey the standard 10-year storm event. These deficiencies result in frequent flooding along some City streets and damage to private property. In addition to these basic concerns of conveyance with our system, the City is a stormwater permitee obligating it to compliance with Federal and State Clean Water Act requirements. The newly released Chesapeake Bay TMDL Watershed Implementation Plan for Virginia will require the City to retrofit approximately 14% of its impervious cover with stormwater controls by 2025 - 60% of which must happen by 2017. A ballpark estimate to retrofit this much of the City is 7 million dollars with 60% of those funds expended by 2017 ($4.2M).

In 2009, City Council established an ad hoc Watershed Advisory Committee to assist in the development of a comprehensive watershed management plan. This plan, expected to be completed by May 2011, will inform efforts to improve the storm water system and to apply City resources to most effectively improve water quality, stream function and critical infrastructure. In addition, the Watershed Advisory Committee will

This account includes the recently announced FFY2010 federal State and Tribal Assistance Grant (STAG) and associated local matching monies.

Project Cost Estimate:

(Provide breakdown of Design and Engineering, Construction; for on-going projects, include funds appropriated in prior years; include source of cost estimates)

The estimate below is based on replacing approximately 1000LF of storm water pipe and ancillary structures with suitably sized reinforced concrete pipes to convey the 10 year design storm. The estimate includes an allowance for engineering design and project management costs as shown below. Estimates are provided by DES staff.

Engineering and Design:	$100,000	
Construction:	$600,000	
Project Management:	$75,000	
Total Project Cost (all years):	$775,000	(for FY12; repeats for FY13-15 - FY11 exceeds this amount by accommodating the STAG allocation)

	FY07	FY08	Total Adjusted
Prior Appropriations:	$640,000	$500,000	$1,140,000
Unexpended Balance:	$640,000	$500,000	$76,241

Future Funding Needs:

	Prior Appropriations	FY2012	FY2013	FY2014	FY2015	FY2016	Total
Funding Source: Local Debt	$0	$0	$600,000	$1,000,000	$1,000,000	$1,000,000	$3,600,000
Funding Source: STAG FFY10	$ 485,000		$	$	$	$	$485,000
Funding Source: Local	$294,491		$	$	$	$	$294,491
Total:	$779,491	$0	$600,000	$1,000,000	$1,000,000	$1,000,000	$4,379,491

Future option pending watershed management plan is SW fee; can use these funds to leverage grant if opportunities present
Remaining prior appropriations defunded on 5-10-10

Project Schedule:

Engineering and Design:	Ongoing
Construction:	Ongoing

Impact on Operating Costs (include equipment, supplies, personnel impacts; specify if a companion initiative will be submitted)**:**
Over time, improvements to storm water infrastructure can be expected to decrease operating costs, as staff time and equipment dedicated to addressing clogs, repairs, and malfunctions is reduced.

Conformity with Comprehensive Plan and Council Strategic Plan (include reference to additional adopted planning/policy documents)**:**
Repairing inadequate storm water systems meets Comprehensive Plan goals found in the "Natural Resources and the Environment" and "Community Facilities, Public Utilities and Government Services" chapters. Relevant Comprehensive Plan goals include:
• Determine whether existing public facilities require renovation
• Identify and prioritize facilities and programs in the greatest need of upgrading
• Ensure the adequacy of the City's present and future storm water management systems

FY 2012–2016 CIP/COP Project – Storm Water Utility Initiation CIP X COP _____

Not Recommended- fund out of existing SW funds

Department/Division: Environmental Services, Engineering Division

Description/Justification:

This project will assist the staff in the complexities of standing up a stormwater utility fund. The City will be faced with high costs associated with upgrading aging infrastructure as well as compliance with federal and state water quality obligations to improve in stream water quality in our local streams, the Potomac River and the Chesapeake Bay. In 2009, City Council established an ad hoc Watershed Advisory Committee to assist in the development of a comprehensive watershed management plan. This plan, expected to be completed by May 2011, will inform efforts to improve the storm water system and to apply City resources to most effectively improve water quality, stream function and critical infrastructure. In addition, the Watershed Advisory Committee will make recommendations regarding potential dedicated funding sources necessary to sustain this long-term capital investment. This project will assist the City in a two phase project to determine if the City and Council are willing to stand up a stormwater utility. Then develop the policies and infrastructure to establish the fund.

Project Cost Estimate:

(Provide breakdown of Design and Engineering, Construction; for on-going projects, include funds appropriated in prior years; include source of cost estimates)

Engineering and Design: $100,000
Construction:
Project Management:
Total Project Cost (all years): $100,000

Prior Appropriations:
Unexpended Balance:

Future Funding Needs:

	Prior Appropriations	FY2012	FY2013	FY2014	FY2015	FY2016	Total
Funding Source: Local Debt	$0	$0	$0	$0	$0	$0	$0
Funding Source:							
STAG FFY10		$0	$	$	$	$	$0
Funding Source: Local		$100,000	$	$	$	$	$100,000
Total:		$100,000	$0	$0	$0	$0	$100,000

Project Schedule:

Engineering and Design: Ongoing
Construction: Ongoing

Impact on Operating Costs (include equipment, supplies, personnel impacts; specify if a companion initiative will be submitted)**:**

Conformity with Comprehensive Plan and Council Strategic Plan (include reference to additional adopted planning/policy documents)**:**
Repairing inadequate storm water systems meets Comprehensive Plan goals found in the "Natural Resources and the Environment" and "Community Facilities, Public Utilities and Government Services" chapters. Relevant Comprehensive Plan goals include:

- Determine whether existing public facilities require renovation
- Identify and prioritize facilities and programs in the greatest need of upgrading
- Ensure the adequacy of the City's present and future storm water management systems